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341 Market Wm Price

An

Inaugural Dissertation

on

Curved Spine

For

The Degree

of

Doctor of Medicine

In the

University of Pennsylvania

By

Aaron Torrence

of

Pennsylvania

Passed March 13. 1829

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Curved Spine.

The history of this disease presents one of the most important, of the triumphs of medicine, over the ills incident to human existence.

But a few years since, (so little was it understood) its unfortunate victim, was doomed to drag out a weary, and a tiresome existence, — to drink to the verry dregs, the cup of human suffering, without the most distant hope of alleviation.

Insidious in its attack, it was not the less certain in its progress, or fearful in its ravages. Though a fatal termination was not its speedy consequence, yet for this verry reason, it was the more dreadful. The fond parent was compelled to witness his lovely offspring, daily withering under its blight influence, and from the protraction of its sufferings, to die

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as it were a thousand deaths. The adult too, whilst he felt it preying on his vitals, and destroying or impairing every function of his body, was doomed to the withering conviction, that though his life might be prolonged to months or years, yet he was incapacitated for being useful to himself, or others, and must eventually become an object of disgust, to his dearest friends.

To Mr Pott, so enviable for his influence in diminishing the quantum of human suffering, must be awarded the honourable distinction of having stricken this disease from the list of the opprobria medicorum, and disrobing it of all its terrors.

Previous to his investigations, it was considered as merely a paralysis, and treated accordingly. So fundamental a mistake in the pathology of the disease, could not fail of leading to error in practice, and disappointment in the result.

Mr Pott has conclusively shown, that so far from being a paralysis, it does not even resemble it, in either its

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symptoms, or results. — The following is the substance of his arguments on that point.

In genuine paralysis the muscles are flabby, relaxed, and incapable of contraction. The affected limb is perfectly flexible; and may be placed with facility in any position we may desire. If it be raised and then permitted to fall, it drops like a perfectly lifeless mass, without the patient having power to prevent it.—

Whereas in the disease under consideration, the muscles are always at least in a tonic state. If the limb be in the straight position, the extensor muscles act so powerfully as to require considerable force to bend the knee, and when we succeed in doing so, the heel is immediately, and forcibly carried up towards the thigh.

By the rigidity of the ankle joint, added to the action of the gastrocnemius muscle, the patients toes are pointed downwards in such a manner, as to render it impossible for him to place his foot flat to the ground.

The difference therefore between the two diseases is is so

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very striking, as to render it a matter of surprise, that they should have ever been confounded.

The course pursued by the disease is usually the following. The patient first experiences some degree of pain, soreness, and weakness of the loins; the pain being usually constant and obtuse. But in a case that fell under my own observation, it was periodical in its attack, and so severe as to cause the patient to cry out, and even to fall down from excessive agony.

To this this, in a short time succeed debility, and a species of numbness of the lower extremeties. The patient now discovers that he has lost the power of walking with his accustomed facility, especially in the dark, or on an uneven surface.

He also becomes subject to a coldness of the extremeties, so considerable, as to prove extremely unpleasant, even in the warmest weather. The legs are at this time affected with a convulsive spasm whenever the patient attempts to walk, or to move them in bed. This last =

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symptom is so considerable, that the patient almost entirely looses the power of controlling his movements: If he stumbles he inevitably falls, notwithstanding the most violent efforts to recover.

Whilst these symptoms are in progress, other changes are taking place. The general health suffers considerably, and is frequently at this period entirely impaired. The functions of the stomach become disordered - flatulence and acidity supervene, and are accompanied with a peculiar sense of stricture, passing from the scrobiculus cordis towards the spine, and verry much resembling that which occurs in tetanus; though not so severe.

These dyspeptic symptoms are generally attendant from the earlier periods of the disease; but it occasion- happens that the patient retains the most perfect gen- eral health, even after he becomes incapable of lo- comotion.

The symptoms above enumerated, continue to in-

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increase in intensity, until their unfortunate victim is reduced to the most deplorable condition. He becomes incapable of changing his posture in bed, or of affording himself the slightest assistance. The most distressing symptoms now ensue. The patient is harassed with pain and spasm - worn down with irritation and hectic, and to complete his sufferings, the sphincters of the rectum, and bladder become paralysed, and involuntary discharges take place. These symptoms soon terminate in death, unless arrested by the appropriate remedies.

The disease consists in affection of the spine or its appendages, terminating in caries. It is highly probable that in some cases the intervertebral cartilages are alone the seat of the disease.

By many it is supposed that all the unfavourable symptoms are owing to a protrusion of the carious vertebrae, and consequent pressure on the spinal marrow. This may be fairly questioned. In one case that occurred

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in my own practice, there was not observable the slightest protrusion of the vertebrae, though the disease existed in all its force, and was of several years standing.

It is perhaps impossible, to determine with precision, what is the specific nature of the primary disease. It is very generally supposed to be a scrofulous affection of the spine, and perhaps correctly, in the generality of cases. But certain it is, that it occurs occasionly, in persons who have not a single indication of the scrofulous diathesis.

Whether it is of a scrofulous nature or not, there certainly is in some persons, a predisposition to the complaint. I knew it to occur in two members of the same family, in neither of whom however was there any evidence of a predisposition to scrofula, as indicated by the fair complexion, thick lip, and unusually developement, of the lymphatic system. Indeed those individuals, had all their lives been peculiarly exempt from glandular swellings, and none of the family had ever =

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been known to labour under a strumous affection.

It is not generally owing to injuries of the spine from blows, or falls, though such accidents may no doubt produce it in persons predisposed, and who might otherwise have escaped.

In the case of the two persons just mentioned, (both of whom were females, one 26 and and the other 28 years of age) and in whom it made its appearance at the same time, it seemed to have been produced, by the exertion of lifting, and nursing their father, who was very corpulent, and rendered entirely helpless by a severe rheumatism.

The disease is, at all events, of an inflammatory nature, and most probably produces its characteristic effects, by thickening the membranous theca of the spinal marrow. This thickening of the membranes produces prepure one the nerves, and hence the affection of the limbs. The inflammation terminating in ulceration, we have protrusion of the vertebra. (I e

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This view of the pathology, is confirmed by the circumstance, that the most successful mode of treatment, is such as is best calculated to combat inflamation, more especially that of a chronic nature.

When called to a patient labouring under the disease, our first object should be to ascertain in what particular part of the spine it is situated. If no deformity or protrusion of the vertebrae exists we may still ascertain with great precision, by commencing at the first cervical vertebra and making sufficient prepure throughout the whole extent of the spine. When prepure is made on the diseased portion, the patient immediately indicates pain or uneasiness, and sometimes starts suddenly, as if pierced by a sharp instrument.

The seat of the disease being ascertained, we should then make an issue on each side of it: their length being principally regulated by the number of carious vertebrae.

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The issues most highly commended are those made with caustic. A discharge must be kept up from the issues by means of peas strung on a common sewing thread. Beads subserve the same purpose very well, and are indeed perhaps superior to the peas, inasmuch as by their greater firmness, they better repress fungus.

We now enjoin on our patient a strict observance of the horizontal posture, on a matrass or sacking bottom. This is indispensable in the treatment of this disease; for the motion and pressure of the affected part, incident to an erect position, must, by keeping up an undue excitement, necessarily prevent the commencement of the healing process, or break up any granulations, that may have already formed.

It will also be highly serviceable to give purgatives occasionally. These will have a salutary influence, not only on the general health, but by procuring a discharge from the neighbourhood of the diseased part, coincide with the issues in their

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general operation. Indeed it is highly probable, that it is matter of little importance in what manner the discharge is procured, provided it be in sufficient quantity, and from the neighbourhood of the part affected.

In the case of a boy, where it was impossible - from his refractory disposition, and the misdirected tenderness of his parents, to use the ipecac; I resorted at the suggestion of professor Gibson, to purging with jalap and cream of tartar, at the same time confining the patient to the horizontal posture. The treatment was successful, for the time at least; though the disease returned a year after, owing perhaps to premature and too violent exercise.

In addition to the general treatment above recommended, particular symptoms will require their appropriate remedies; - as anodynes for pain and spasm, carminitives for flatulence, and absorbents for acidity.

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It will also subserve the general indication of cure, to keep our patient on a light diet, and indeed in every respect to pursue the antiphlogistic regimen.

After the disease is subdued, we may hasten the return of health by a judicious administration of tonics, and frictions with the flesh brush, particularly on the limbs affected; conjoined with a nourishing and digestible diet.

The treatment above recommended, will very generally succeed, provided the disease be not too far advanced, and the patient of a peculiarly bad constitution. Even persons considerably advanced in life, and in whom the restorative energies of the system, are necessarily impaired, may by these means be snatched from the grave, and restored to society and usefulness, as the subjoined case will evince.

In 1827 I was called to attend E— G— a gentlemen lady aged 40, who was labouring un=

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under the above disease. The following is the result of my inquiries as to the history of her case.

In 1814 or 1815, she first experienced a slight inability to walk so fast, or so steadily as formerly, especially in the dark or on uneven ground. — The disease however increased so slowly, that a number of years elapsed, before she was seriously incommoded, or prevented from performing ~~active~~ active labour.

The symptom next in order, was a coldness, and insensibility of the lower extremities, which it was difficult to overcome, even by very warm applications. This was soon succeeded by a stiffness of the joints, and the peculiar springing of the knees, so constantly an attendant of the complaint.

Her general health remained unimpaired, with the exception of headache, to which however she had always been subject. In 1820 she had almost entirely lost the power of walking, but was still able to ride on horse back, and actually

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took a journey of a hundred miles, in order to consult a physician of eminence respecting her disease. He mistaking it for nervous debility, prescribed barks, wine, steel dust and amonia, to be accompanied with cold bath. It is scarcely necessary to add that these measures proved entirely unavailing.

In 1821 she applied to other physicians, one of whom, it would appear, had some suspicion of the real nature of the complaint, from his having carefully examined the vertebral column. However not discovering any deformity, or protrusion of the vertebrae, he contented himself with prescribing serpentaria, barks, and mustard seed internally, conjoined with plasters of mustard to the back of the neck, the cold bath, and frictions with the flesh brush. These remedies proving ineffectual, after a fair trial, she was abandoned to her fate.

When I first saw the patient, she had been for the last two years unable to walk, even with the aid of crutches; and was at that time incapable of turn=

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turning herself in bed; though when placed on a chair, she could maintain the erect position for two or three hours, without much inconvenience.—

The disease was not confined to her lower extremities. Though she so far retained the use of her arms as to feed herself, yet it was only after several unsuccessful efforts, that she could ever succeed in carrying the food to her mouth.

What rendered this case peculiar, was, that the patient had from the commencement of her disease, enjoyed the most uninterrupted general health.

I commenced my investigations with having the spine denuded of all clothing, and then made pressure on each successive vertebra. On my first trial, I was almost induced to believe that I had been mistaken as to the nature of the complaint, as the patient gave no indication of pain or uneasiness. On a more accurate examination however, I discovered that when strong pressure was made on the first lumbar vertebra, she experienced more pain and soreness than-

pressure on a sound part could be supposed to produce.

From these circumstances I felt justified in commencing the treatment of the case as one of curved spine; and on my return a week after, for the purpose of making the issues, I received farther confirmation of my opinion, from the circumstance that the patient had experienced constant pain and soreness of the loins, from the time of my examination, though she had before been exempt from them.

Nov 1st 1827 Having applied the caustic in the usual manner, on each side of the spine, I ordered a poultice of bread and milk, for the purpose of procuring the sloughing of the eschars.

An ingeniously contrived bedstead, by means of which the patient could change her posture, or raise her body to any angle, without motion of the vertebra, having been previously procured, she took her bed, with the promise to retain it for a year, or longer, if the cure should require such a length of time.

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Nov 24th Finding that the eschars were not disposed to slough, I removed them by the knife. In the issues thus made, I inserted a sufficient number of peas, previously strung on a sewing thread, and secured them with a compress and roller. Ordered a purgative of cream of tartar and jalap every third day. —

Nov 28th Found the patient labouring under pain and spasm of the stomach. The issues had not discharged well, and were so completely filled with a prolific fungus as to exclude the peas entirely. — Reapplied the caustic to reduce the fungus, — and instead of peas, inserted beads, with the hope that their greater firmness might have the effect to repress the morbid granulations.

December 1st The issues being again filled with fungus, reapplied the caustic, and ordered that at each dressing, the beads should be rolled in powdered savin, before being applied. Purgatives continued.

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of producing a discharge, nor of repressing the fungus, substituted the red precipitate in its stead.

December 12th The fungus still unmanageable; ordered continued pressure on the part. The pain of the stomach with flatulence acidity increasing, I discontinued the cream of tartar and jalap, and prescribed magnesia, to be taken daily, in sufficient quantity to keep the bowels in a soluble state.

Decemb. 16th Finding it impossible to repress the fungus, and the irritation it produced, being intolerable to the patient, I determined on discontinuing the caustic issues, and substituting setons in their stead.

Decemb. 22nd The issues having healed, I introduced a seaton on each side of the diseased part. The pain and spasm of the stomach being very severe, prescribed opium and carminatives. — The magnesia continued.

Decemb. 25th The dyspeptic symptoms considerably relieved, and the patient much pleased with

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Decemb. 29th. The issues suppurate well, and produce but very little irritation. Dyspeptic symptoms much the same as at last visit. Same treatment continued.

January 8th. Pain of the stomach gradually diminishing. Patient thinks she has more sensibility of the lower extremeties, and suffers less from coldness of the hands and feet.

Jany 12th. Found the patient labouring under severe hysterical symptoms. She was agitated by the most trivial noise, and was much distressed with flatulence. Prescribed aqua amonia, laudanum and ether, and ordered a pill consisting of aloes, myrrh, and assafoetida, to be taken every morning and evening.

Jany 16th. Patient entirely relieved of hysterical symptoms, appetite returning. Setons doing well.

Jany 24th. Patient evidently much impro=

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improved – Stiffness of the knees considerably abated, – a more comfortable, and natural sensation of the lower extremeties.

Jany 30th. All the unfavourable symptoms rapidly subsiding; – appetite good, strength returning. Pills continued.

Feby 20th. Spasm of the limbs entirely disappeared; patient can now move them without difficulty or inconvenience. The only symptoms now remaining are debility and some degree of stiffness of the joints.

March 12th. The patient had so far recovered that I considered it unnecessary any longer to enforce the horizontal posture. Accordingly, being permitted to arise, to her great joy she discovered that she was able to take several steps, though in a very imperfect manner. I now took my leave of the patient, having previously prescribed a course of tonics, and ordered the setons to be permitted to remain for two or three months.

I saw the patient occasionly through the ensuing summer. She continued to improve, though so slowly, that at the time I last saw her (25 oct 1828) she was only able to walk about thirty feet without assistance.

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